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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,589	05/29/2001	Shinpei Oono	DAIN:312D	4628

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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT PAPER NUMBER

1722

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,589

Applicant(s)

OONO ET AL.

Examiner

Donald Heckenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 4, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/429,218.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on September 24, 2004 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno (U.S. Pat. No. 5,415,536; previously of record) in view of Nied et al. (U.S. Pat. No. 5,290,490; previously of record).

Ohno discloses an apparatus for forming a pattern onto an article during an injection molding of the article. The apparatus comprises a feed means that feeds the pattern-bearing film (X) to a molding position where a male mold (1) and a female mold (2) are opposed (see Figure 1). A heating board (9)

is provided that heats the pattern-bearing film so as to soften the film. The heating board has a heating surface that is movable into and away from a space between the male mold and the female mold (see Figure 1). A transfer means transfers the pattern-bearing film to an internal surface of the female mold so as to contact the film with the internal surface (see figure 7). The apparatus is further provided with closing means that causes the male mold and the female mold with the film to approach each other and form a closed molding cavity (see Figure 15). Also provided by Ohno is a resin injecting device (5) that injects molten resin into the cavity to form a molded article to adhere the pattern-bearing film to the surface of the article. Ohno further discloses a heating wire (24) within the heating board to generate heat, and the heating board to be arranged in a vertical direction (see Figure 1). The pattern-bearing film is sent from an upper position to a lower position along the vertical direction in one line as shown in Figures 9 and 10.

Ohno does not disclose the heating board being divided into a plurality of independently controlled heating blocks with the blocks being arranged in one line so that one heating block is disposed adjacently above another heating block.

Nied discloses an apparatus for the differential heating and thermoforming of a polymer sheet, wherein the heater is

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divided into a plurality of independently controlled segments (24). Nied notes that this is advantageous in that it allows for differentially heating different segments of the polymer sheet (see cl. 2, ll. 39-50; cl. 4, ll. 26-29 & 36-41; and cl. 6, ll. 13-16).

It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the apparatus of Ohno as such to have the heating board divided into a plurality of heating blocks because this would have allowed for the differential heating of different areas of the film as suggested by Nied. By dividing the heating board of Ohno into a plurality of blocks as suggested by Nied, the resulting board would thereby have heating blocks arranged in a vertical direction with one heating block disposed adjacently above another block because of Ohno's teaching of the heating board to be placed in a vertical direction (see figure 1).

Nied discloses the heating blocks to be provided in plurality of rows and columns (see figure 1). The rows and columns of heating blocks are provided so as to heat different areas of the sheet, depending on the desired temperature to be imparted to sections of the sheet (col. 2, ll. 45-50). For example, Nied discloses that the heating profile can be varied according to the thickness of the sheet in different sections

(col. 2, ll. 39-44). Although claim 7 of the instant application recites that the heating blocks are arranged in one line only, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the apparatus suggested by the combination of Ohno and Nied as such to have used only a single line of heating blocks when a corresponding profile of varying temperature zones is desired in the sheet. For example, when the sheet used varies only as such to become progressively thicker along its length, a single line of blocks only would be needed. Thus, such a modification would still allow for the advantageous desired heating profile described by Nied, while at the same time making a simpler apparatus with less heating blocks.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno and Nied as applied to claim 7 above, and further in view of Chapman (U.S. Pat. No. 5,423,669; previously of record).

Ohno and Nied disclose and suggest the apparatus as described above. Ohno and Nied do not disclose the use of temperature sensors to monitor the temperature of each heating block.

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Chapman discloses an apparatus for thermoforming film including a heating unit (38) which has a temperature sensor for monitoring the heat imparted to the film and to adjust the heater according based on detected temperature, thereby providing a temperature controlling system for the apparatus (col. 4, ll. 19-30).

It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the apparatus of Ohno and Nied as such to have provided the heating blocks with a temperature sensor because this would have allowed for the monitoring of the heat imparted to the film and thereby better control the heating as suggested by Chapman. Given the teaching of Ohno and Nied for the differential heating of different areas using independent heating blocks, it further would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have used temperature sensors at each block to monitor the heat imparted to the film at each independent block because the temperature to be generated at each block is different. Note that such a modification requires the duplication of a known part, a temperature sensor, for the multiplied effect of monitoring the temperature at different points. Generally, the duplication of a known part for a multiplied effect has no patentable

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significance unless it can be shown that there is a new and unexpected result. See St. Regis Paper Co. v. Bemis Co., 549 F.2d 833, 193 USPQ 8 (7th Cir. 1977); In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

7. Applicants' arguments filed September 24, 2004 have been fully considered but they are not persuasive.

Applicants argue that the rejection claim 7 with Ohno in view of Nied is formulated on hindsight. Applicants assert that Nied wants to have variability throughout the heating block so that one may apply differential heating in accordance with a preselected thermal pattern. Applicants also assert that restricting the heating block of Nied to a vertical single line operation would thoroughly compromise the objectives discussed in the reference. Applicants therefore conclude that the revised configuration described in the rejection is detrimental to the intention and objectives of Nied, and as such, the rejection is improper.

Applicants' arguments asserting that the revised configuration of the rejection would be detrimental and contrary to the objectives of Nied are not found persuasive. The rejection is formulated with Ohno being the primary reference, with the apparatus disclosed therein being modified. The Nied

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reference is merely a secondary reference used to show that a particular claimed feature (the plurality of heating blocks) was known in the art and that there was a suggestion to one of ordinary skill in the art to incorporate this feature into the apparatus disclosed by Ohno. That some of the objectives of the secondary reference would not be possible with the proposed modification is not relevant to an obvious analysis. See In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) ("If the proposed modification or combination of the prior art would change the principal operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.") (emphasis added); see also MPEP § 2145 (Noting "[T]he claimed combination cannot change the principal of operation of the primary reference or render the reference operable for its intended purpose.").

Moreover, it does not appear that a single line heating block would have necessarily been totally contrary to the objectives of Nied. For example, at column 2, lines 51 through 54, Nied notes "[A] thermal pattern is impressed on the sheet, the pattern being selected in accordance with the desired wall thickness of corresponding portions of the article to be formed." At column 6, lines 19-21 it is noted that the controller "is programmed to impress the predetermined thermal

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pattern on the sheet portion of the heater." While the apparatus disclosed by Nied may have multiple rows of heating blocks, Nied is disclosing the system to be designed according to the heating pattern desired to be imparted to the sheet. Thus, a single line heating block modification to the apparatus Ohno would still be in conformance with the general objective of Nied when a single line heating pattern was desired to be imparted on the sheet.

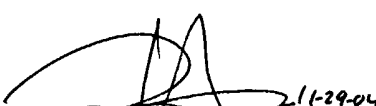
Applicants argument that the rejection is based on hindsight is also not found persuasive as all of the features of the claimed invention are disclosed by either Ohno or Nied, and one of ordinary skill in the art would find suggestion to combine the reference as described above. The claimed invention is therefore rendered obvious by the references without any knowledge of the disclosure of the instant application, and thus not based on hindsight.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (571) 272-1131. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech, can be reached at (571) 272-1137. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<<http://pair-direct.uspto.gov>>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).


Donald Heckenberg
A.U. 1722